Center for Urban Water Resilience

College of Social & Behavioral Sciences

Mike Antos, Director

Senator Carol Liu “Living Well with Less Water” Forum
24 July 2015 - Duarte Community Center

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Center for Urban Water Resilience

(1) Benefit faculty research & student outcomes through engagement with community

(2) Develop partnerships and critical career skills

(3) Position CSU Northridge as vital water research, planning and implementation partner

(4) Make positive impacts with and for the communities CSUN serves

Water Resilience

(1) Resilience is a social challenge

(2) Renewal of infrastructure *and* institutions

(3) Our human relationship with water drives us to cooperative solutions to water challenges

What is Urban Resilience?

Urban Resilience is the capacity of individuals, communities, institutions, businesses, and systems within a city to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks they experience.

CHRONIC STRESSES

Stresses weaken the fabric of a city on a daily or cyclical basis.

Examples include:

- high unemployment
- overtaxed or inefficient public transportation system
- endemic violence
- chronic food and water shortages.

ACUTE SHOCKS

Acute shocks are sudden, sharp events that threaten a city.

Examples include:

- earthquakes
- floods
- disease outbreaks
- terrorist attacks

PIONEERED BY THE ROCKEFELLER FOUNDATION
100 RESILIENT CITIES

Urban Resilience

(1) Individuals
(2) Communities
(3) Institutions
(4) Businesses
(5) Systems

Urban Resilience

Lessons from Sandy & Katrina

(1) Strong formal & informal networks

(2) Patterns of social inclusion

(3) Robust community ties

(4) Cultural competency of agencies

Los Angeles Department of Water & Power

Resilience is a Social Challenge

(1) Technical fragility

(2) Solutions mostly known

(3) Social network weak

(4) Needs social investments

Groundwater contamination a growing problem in L.A. County wells

By RONG-GONG LIN II AND PRIYA KRISHNAKUMAR
contact the reporters

Los Angeles Times
Photography & Video / GRAPHICS

This article is related to:
Los Angeles Department of Water and Power

The hefty price of updating LA's pipes

by AirTalk March 23 2015

This slide seems like I am picking on LADWP. I am not, they are one of hundreds of agencies facing the exact same challenges. They're challenges are huge because they are huge, and therefore a good case study.

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Adapting Infrastructure and Institutions

Oregon State University
College of Earth, Ocean and Atmospheric Sciences
PROGRAM IN WATER CONFLICT MANAGEMENT AND TRANSFORMATION
www.transboundarywaters.orst.edu
Institute for Water and Watersheds

Hamner & Wolf (1997) Patterns in International Water Resource Treaties: The Transboundary Freshwater Dispute Database (Env. Law and Policy)

“Co-Riparians”

“Hydro-Cooperation”

The fortunate corollary of water as an inducement to conflict is that water, by its very nature, tends to induce even hostile co-riparians to cooperate, and even as disputes rage over other issues. In fact, the weight of historic evidence tends to favor water as a catalyst for cooperation: organized political bodies have signed 3,600 water-related treaties since AD 805, versus only seven minor international water-related skirmishes (each of which included other non-water issues). The only water-related war between states on record occurred about 4,500 years ago. Given this disproportionate evidence in favor of "hydro-cooperation," the processes of conflict resolution and amelioration warrant more study, although at present many scholars focus on the potential for violent conflict sparked by water disagreements.

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Our technical challenges:

(1) #1, but for a different day!

(2) Rain instead of snow

(3) Aging infrastructure

(4) Legacy degradation

Our social challenges:

(1) Community values

(2) Lack of understanding

(3) Funding

(4) Institutions

Challenges in the San Gabriel Valley:

(1) Fragmented governance (political and water)

(2) Highly-valued suburban lifestyles

(3) Climate change predictions (heat, heat, heat)

(4) Fragile water supply portfolio

(5) Legacy pollution in groundwater

(6) Today's pollution in the stormwater

Opportunities in the San Gabriel Valley:

(1) Active governments (San Gabriel Valley COG, 2 MWDs, electeds)

(2) Many strong / active communities

(3) Natural-bottom San Gabriel River

(4) Main San Gabriel Groundwater Basin

(5) Potential large supply recycled water

(6) Good water examples:

- Pomona, 28% conserve since 2013, 56.5 GPCD
- Azusa, 27% conserve since 2013, 71.7 GPCD

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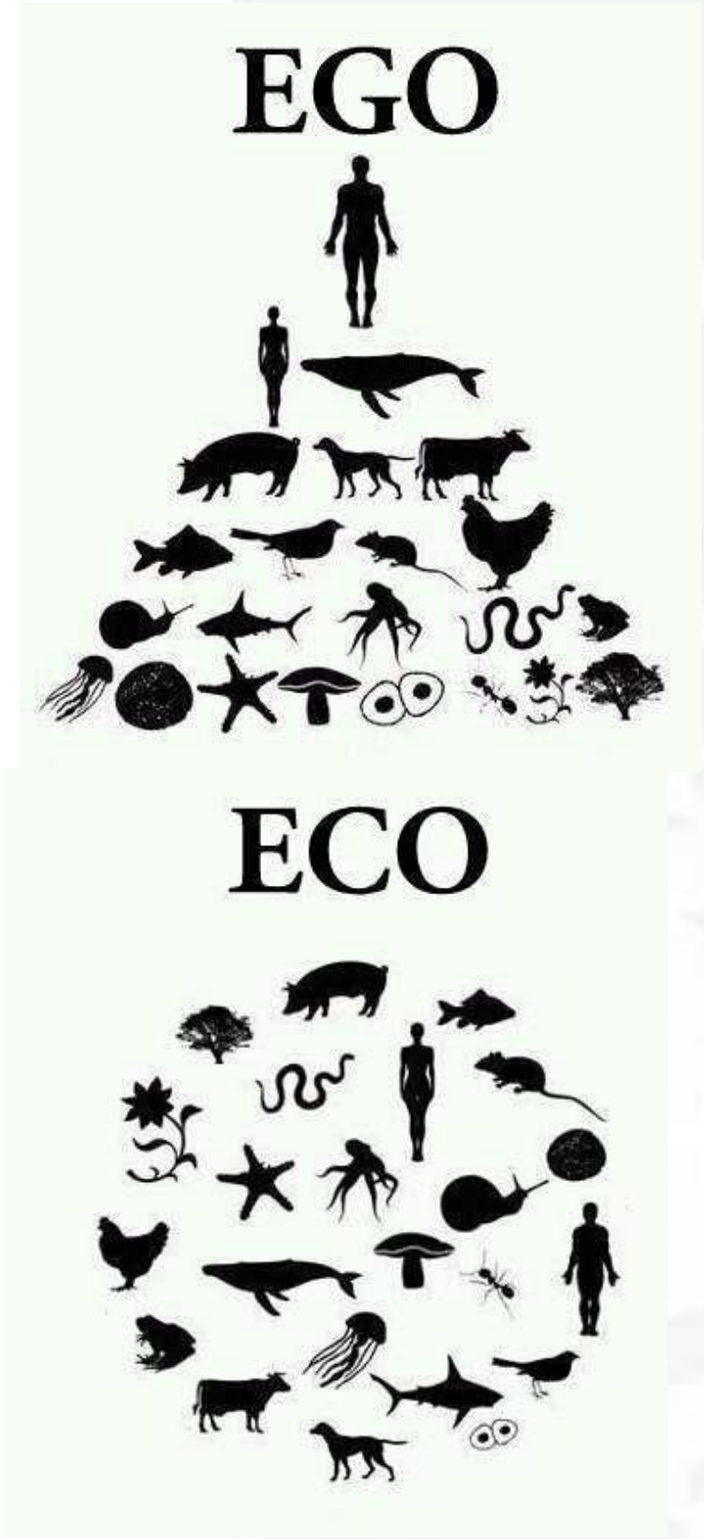

Resilience through collaboration yielding resilience

(1) Collaborative and integrated methods are required (in theory and in practice) to solve water challenges

(2) Our human nature and our relationship with water influences how we engage with one another

(3) Solving water challenges this way brings us together and yields benefits across our challenges

Thank you!

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